

RIVERWAYS

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News Notes #6

from the Massachusetts Riverways Programs (www.massriverways.org)

River Continuity: Identifying and removing barriers to fish and wildlife movement in and along rivers and streams

Dear River Advocates,

As we continue to work with you on river issues, we all become more and more aware of opportunities volunteers-along with municipalities and state agencies-have to restore habitat and reconnect the vegetated river corridors and other key pathways linking together the Commonwealth's ecological infrastructure. The lead article in this edition of **Riverways NewsNotes** features **River Continuity**, a program that brings together volunteers, state policy makers, UMass Extension and state and local highway departments to plan and implement river-friendly river connections through culvert replacement and removal/modification of other barriers to fish and wildlife movement in and along rivers and streams. River Continuity is a model partnership effort. Started as a joint Riverways/Hardwick Land Trust/Trout Unlimited project, with seed funds from Sweet Water Trust, River Continuity grew under the Watershed Initiative (Chicopee and Connecticut River Teams). Scott Jackson and Christina Maginnis of UMASS Extension, in collaboration with Riverways staff, worked to create an impressive, multi-year program to identify the fragmentation of rivers so that they can be restored.

In 1995, Riverways staff member Karen Peltó became interested in culverts as barriers when she went on site visits with aquatic biologists from the Mass. Division of Marine Fisheries. She saw first-hand culverts that blocked up- and downstream passage for alewife and heard about the difficulties in establishing a systematic means for removing existing and preventing future barriers. At the same time, Scott Jackson was completing research on the effects of road crossings on terrestrial and aquatic wildlife populations.

The partnership expanded to the local level when UMASS Extension/Mass. Water Watch Partnership and Riverways Adopt-A-Stream worked on pilots to involve volunteers in River Continuity Surveys that identify barriers to fish and wildlife movement in and along rivers and streams. The pilots have been completed in the Greater Connecticut Watershed and future surveys will be planned. In addition, River Restore plans an implementation project in the Westfield watershed. Both the Westfield River Wild and Scenic Advisory Committee and the Westfield River Watershed Association plan to work on the local outreach aspects of this project.

Following the lead article on River Continuity, this edition of NewsNotes contains the usual Resources and Grants section to support your excellent river work. As some of the application deadlines for upcoming grant rounds are fast approaching you may want to quickly skim that section first so you don't miss out on any time-sensitive opportunities.

See you on the rivers!

Joan Kimball

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Roads and River Continuity: Evaluating Fish and Wildlife Passage at Culverts and Bridges

Roads, a major part of our human-built infrastructure, can have an enormous adverse impact on our ecological infrastructure. Road building and widening not only represent a loss of natural habitat, but also can result in a fragmented landscape. There are many reasons that the Commonwealth of Massachusetts should work to grow in a sustainable manner and build our infrastructure wisely. Fortunately, it is possible in many situations to reduce if not completely eliminate the adverse impacts of road systems on fish and wildlife movement.

We have all seen how roads and the associated traffic and development can disconnect wildlife populations by slowing or halting movement through the landscape (as evidenced by the roadkill we see along our highways). Fragmentation, often caused by problem culverts, can also be a problem for species that must move in and along the stream and river corridors. To many fish, a culvert that drops a foot at its outlet can be just as an imposing barrier to upstream movement as a dam 5 feet high. A poorly designed culvert or bridge can prevent many organisms from swimming or traveling through the structure. By spreading the flow out to just a few inches deep, or by constricting the stream flow to a high velocity, culverts may prevent organisms from swimming or floating to critical upstream or downstream spawning, nursery, or feeding habitats. Additionally, when wildlife species (mink for example) are prohibited from moving in and along the stream corridor by long dark culverts, they are forced to go up and over the road, where deadly traffic may await them. Growing sustainably means building and upgrading roads that not only pass people efficiently and safely on roads across streams and rivers, but also pass fish and wildlife efficiently and safely through and under those roads.

Over the past two years, the River Continuity Project, with additional funding from the Massachusetts Watershed Initiative and led by Scott Jackson, at UMASS Amherst in the Department

of Natural Resources Conservation, in cooperation with the Riverways Programs, has been addressing the impact of roads on our streams by developing a volunteer stream crossings survey protocol, mapping and analyzing stream and roads data, developing a digital database for inventory and evaluation, and convening a Technical Advisory Committee (TAC) to draft Technical Guidelines for Stream and River Crossings.

Though Massachusetts has many dams that block fish and wildlife movement (there are approximately 3,000 dams in the state inventory), stream and river crossings by roadways may be as much or more of an issue for fish and wildlife due to the sheer number of roads we have in the Commonwealth. Indeed, Riverways' initial mapping efforts show an estimated 29,000 stream crossings! This is likely to be an underestimate considering the incomplete data of mapped roads and streams.

With so many stream and river crossings, obviously, no local, state or federal agency could ever manage to inventory these stream crossings alone. Therefore, a key focus of the River Continuity Project has been to develop methods that will help tap the amazing skills, energy, and local expertise of volunteers. Through the combined efforts of the Riverways Adopt-A-Stream program and the UMASS Extension/Mass. Water Watch Partnership, many volunteers have helped to pilot the stream crossings survey in local streams, including the Prince River (Barre), Moose Brook (Hardwick and Barre), Pecousic Brook (East Longmeadow), Mill Brook (Northfield), Munn Brook (Granville), Keyup Brook and Jacks Creek (Erving), and portions of the Tully River. These pilot surveys have yielded information on the culverts and bridges and on the process and the follow-up protocols of the survey, inventory and evaluation.

With participation from many government, non-profit and private experts, **Technical Guidelines for Stream and River Crossings** have been drafted. The guidelines describe the Optimum, General and Minimum standards for stream crossings as well as recommendations when the various standards should be applied. These can be accessed at: www.umass.edu/umext/nrec/pdf_files/guidelines_river_stream_crossings.pdf. These guidelines will be useful to MASS Highway, local DPWs, Conservation Commissions, non-profits and local Stream Teams, as well as other state and federal agencies.

Riverways will be continuing to work on the River Continuity Project with UMASS in the coming year. Through funding provided to Riverways by the U.S. Fish and Wildlife Service Connecticut River Coordinator's Office, we will be upgrading a culvert in the Westfield watershed to demonstrate fish-and wildlife-friendly designs. We also expect to build partnerships among volunteers, watershed groups, conservation commissions, and departments of public works to improve planning, permitting, and implementation of fish- and wildlife-friendly road crossings.

Riverways/Adopt-A-Stream/UMASS Extension would like to expand River Continuity Surveys to other watersheds throughout the Commonwealth. If you are interested in this issue please contact **Karen Pelto** at (617) 626-1542 or Karen.Pelto@state.ma.us for more information. [Note: see

"Critter Crossings" in the On-line Resources section of Resources and Grants below for more information on a similar effort at the federal level.]

RESOURCES AND GRANTS

[Note: Although some of the following grant sources have been mentioned in past editions of Riverways NewsNotes, we list them again here (chronologically) if they have a grant round application deadline approaching in the near future.]

The Ben & Jerry's Foundation (30 Community Drive, So. Burlington, VT 05403-6828, <http://www.benjerry.com/foundation/guidelines.html>) offers competitive grants to not-for-profit, grassroots, constituent-led organizations throughout the United States to facilitate social change by addressing the underlying conditions of societal and environmental problems. The foundation supports programs and projects that are examples of creative problem-solving and: address the root causes of social or environmental problems; lead to societal, institutional and/or environmental change; and lead to new ways of thinking and acting. A letter of interest must be submitted by mid August 2003 at the latest to be selected and have time to submit a proposal to be considered for the November 1 grant round. Letters of Interest may be submitted at any time and are reviewed on an ongoing basis. However, they may take up to eight (8) weeks to be reviewed and, therefore, must be submitted at least ten (10) weeks prior to the proposal deadline for which you wish to be considered.. They do not accept FedEx or express delivery packages, faxes, or e-mailed submissions. Deadlines to submit a full proposal (for invited applicants only) are: March 1st, July 1st, and November 1st. Grants range in size from \$1,001 - \$15,000; Small Grants awards are also made of up to \$1000 (see website for more details and guidelines for both grants).

The purpose of the **Berkshire Taconic Community Foundation's Central Berkshire Fund** "is to improve the quality of life for the residents in the communities of Becket, Cummington, Dalton, Hinsdale, Peru, Washington, and Windsor. Projects that benefit the community in any of the following areas will be considered: arts, culture, education, the environment, and health and human services. Requests will be considered for projects, programs, capital improvements, and general operating support." Grants range from \$500 - \$3000 and require a 1:1 match either in cash, services, or in-kind donations. Non-profit organizations, public agencies and community organizations are eligible. The next submission **deadline** is **September 1, 2003**; go on-line to <http://www.berkshiretaconic.org> for more information.

The Ittleson Foundation supports innovative pilot model and demonstration projects that promote activism through education and training with a special interest in training of trainers, strengthening networks and involving new constituents at the grassroots level, especially those which address environmental equity issues. The **deadline** for submitting concept letters is **September 1st** for the fall grant round. Contact Anthony Woods at (212) 794-0351 or write to the Ittleson Foundation, 15E 67th Street, 5th Floor, New York, NY 10021, or go on-line to <http://www.Ittlesonfoundation.org>.

The **Essex County Community Foundation (ECCF) General Discretionary Grants** are awarded "across the broad areas of nonprofit- (501(c) (3) status or pending application and in some cases local or state government activity in Essex County, including Arts and Culture, Education, Environment, Health, Social and Community Services and Youth Services....Generally grants will assist organizations to undertake defined projects, that is, specific programs or activities with objectives that can be assessed within a one-year grant period. ECCF seeks to support the growth, effectiveness and financial stability of non-profits serving the region by funding projects with clear advancement goals. Proposals should demonstrate how the funds requested will expand the organization's services, improve service quality/impact, or build capacity by strengthening organizational management, funding or governance." Grants are awarded for up to \$10,000 but average below \$5000. Submission **deadlines** are **September 1** and February 1. More information is available on-line at <http://www.eccf.org/index.html>.

The **Greater Worcester Community Foundation's Water and Land Stewardship Fund** seeks to "improve the region's environmental quality by focusing on water quality and related land use issues and to encourage grassroots efforts that raise awareness about these concerns". Non-profit organizations, grassroots or other community groups working to improve the environmental health of Worcester County are eligible. Grants range from \$500-\$2500. Submission **deadlines** are March 1, June 1, **September 1**, and December 1. Go on-line to <http://www.greaterworchester.org> for more info.

NOAA Community-Based Restoration Program / Individual Project Grants are available for "on-the-ground" marine or anadromous fish habitat restoration projects with long-term ecological habitat improvements. A hands-on grass roots approach is favored, as well as projects that include an educational or volunteer component. Grant size averages \$50,000- \$200,000 (\$30,000 minimum; \$250,000 maximum). A 1:1 match is encouraged but not required. The submission deadline is **September 12, 2003**. See http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/partners_funding/callforprojects.html for more details (see another NOAA grants program below with a later deadline.)

Applications are now being accepted for **The Laura Jane Musser Fund Environmental/Community Initiative**, which encourages communities to use a consensus-based approach to environmental decision-making. The Fund will consider requests that propose a process or initiative in a rural or non-urban community that develops a stewardship program through a consensus-based approach. Projects should preserve and manage a significant natural resource, or use a consensus-based approach to resolve an environmental issue or dispute. **Proposals are due September 15, 2003**. For more information, contact Judith K. Healey at jkhealey@aol.com or go on-line to <http://www.musserfund.org/environmental.htm>.

The overall goal of the **Compton Foundation, Inc.'s Environment Fund** is "the prevention of environmental deterioration and the protection of natural resources. Priorities include: Land, river and watershed protection and management for purposes of long term habitat and ecosystem

preservation and restoration.... Geographically limited projects should demonstrate impact beyond their immediate location." Grants are generally awarded to regional. National or international organizations- only organizations with tax exempt with 501(3)(c) status are eligible to apply. Submission **deadlines** are **September 15** for consideration at the December board meeting and Feb. 15th for consideration at their May board meeting. For more information, go on-line to <http://www.comptonfoundation.org/enviro.html>.

The **New England Grassroots Environment Fund (NEGEF)** is a small grants program designed to foster and give voice to grassroots environmental initiatives in the six New England states. They provide grants of up to \$2,500 to fuel civic engagement, local activism, and social change. NEGEF funds community involvement in projects that address a wide range of environmental issues including: agriculture, air quality, alternative energy, aquifer protection, biotechnology, community gardens, environmental justice, energy conservation, forestry, global warming, land trusts, marine environment, public health, sprawl, sustainable communities, toxics and hazardous waste, trails, water quality, watershed management, wetlands, wildlife, and youth-organized environmental work. NEGEF was created to assist groups who are not being reached by traditional funders. NEGEF's user-friendly web page (<http://www.grassrootsfund.org>) is worth checking out, as it contains on-line versions of NEGEF's current and past newsletters and a recommended reading list for potential grantees as well as links to grant recipients sorted by resource type (water, e.g.). For more information, contact Cheryl King Fischer, Executive Director, at (802) 223-4622. The next submission deadline is **Sept 15, 2003** for a November decision.

The **Crossroads Community Foundation (CCF) Capacity Building Grants** support nonprofit organizations, services and programs in a variety of fields including arts/culture, education, environment, housing, health/mental health and social services. CCF will award grants of up to \$5,000 to help build the service capacity of area nonprofit, charitable institutions. To apply for a capacity building grant, applicants must be non-profit 501(c)(3) organizations or public schools serving one or more communities in Crossroads' 27-town region. Communities include: Acton, Ashland, Boxborough, Concord, Dover, Framingham, Holliston, Hopkinton, Hudson, Lincoln, Marlborough, Maynard, Medfield, Medway, Milford, Millis, Natick, Needham, Sherborn, Southborough, Stow, Sudbury, Waltham, Wayland, Wellesley, Westborough and Weston. Projects for which support is sought should benefit people who live or work in the region. Submission **deadline** is **September 19, 2003**. Go on-line to <http://www.ccfnd.org> for more info.

The **Captain Planet Foundation** provides grants ranging from \$250-\$2,500 for projects that: promote understanding of environmental issues; focus on hands-on involvement; involve children and young adults 6-18 (elementary through high school); promote interaction and cooperation within the group; help young people develop planning and problem solving skills; include adult supervision and commit to follow-up communication with the Foundation (specific requirements are explained once the grant has been awarded). The next submission **deadline** is **September 30, 2003**. For more

information go on-line to http://www.captainplanetfdn.org/aboutUs.html#policies_grant_guidelines.

The U.S. EPA's new "**Environmental Justice Collaborative Problem Solving Grant Program**" provides financial assistance to community-based organizations who wish to engage in capacity-building initiatives, and also utilize constructive engagement and collaborative problem-solving to seek viable solutions for their community's environmental and/or public health issues. Only non-profit, 501(c)(3) organizations are eligible to apply. Grant **applications are due September 30, 2003**. Grants will be awarded at \$100,000, for a project period of up to three years. Visit <http://www.epa.gov/compliance/recent/ej.html> for more [information](#).

The **Amelia Peabody Charitable Fund's Environment Program** supports **land acquisition**. The Fund will consider projects throughout New England but has a preference for those in Massachusetts, particularly in the Boston area. Submission **deadlines** for proposals are: February 1, June 1, and **October 1**. For more information and copy of grant guidelines, contact Jo Anne Borek, Executive Director, Amelia Peabody Charitable Fund, 10 Post Office Square, Suite 995, Boston, MA 02109-4603 or call (617) 451-6178.

The **Berkshire Taconic Community Foundation's General Fund** is focused on capacity-building projects in the arts and culture, education, environment, health and human services. Non-profits, municipalities, community organizations or civic entities serving residents of Berkshire, MA (or Northwest Litchfield, Ct counties) are eligible (see <http://www.berkshiretaconic.org> for further eligibility restrictions). Grant size is usually from \$500-\$2000 but may be up to \$3000. Submission **deadline** is **October 1, 2003**.

The **William P. Wharton Trust** supports conservation, study and appreciation of nature through projects with tangible and lasting results, those that seek partnerships and that leverage funds to gain matching contributions. In order of priority, the Trust specifically supports: 1) acquisition of land for conservation and preservation of natural areas, primarily in MA and NE; 2) management techniques designed to improve environmental quality and species diversity; 3) bird and forestry research & management at the applied level vs. the theoretical or molecular level; and 4) creation of materials or projects designed to foster an appreciation and a concern for wildlife and natural systems. Range of award is usually from \$2,500 to \$10,000 and usually for the duration of one year. Application **deadlines** are April 1st and **October 1st**. For more information, contact Pearl E. Bell, Estate & Trust Administrator, The William P. Wharton Trust, Choate, Hall & Stewart, Exchange Place, Boston, MA 02109-2804 or call (617) 248-5000.

The **Environment Program of the Sudbury Foundation** (<http://www.sudburyfoundation.org>) focuses on two geographic regions that face significant challenges to ecological integrity and community sustainability: Gulf of ME Fisheries and Coastal Communities and The Northern Forest of NY, VT, NH, and ME. The Program supports projects that conserve and restore the productive capacity of these two ecosystems while helping to build a better future for the people who depend on them. It also favors community-based efforts to conserve resources and enhance quality of life -solutions developed with local input. Grant awards range from \$5000- \$25,000. The next **deadline** for submitting proposals is **October 1, 2003**; it is also OK to send a letter of inquiry prior to that date and/or to call and discuss project for

feedback. For more information, contact Fredericka Tanner(tanner@sudburyfoundation.org), Executive Director, [Marilyn Martino](#), Program Officer, [General Inquiry](#) or write to 278 Old Sudbury Road, Sudbury, MA, 01776 or call (978) 443-0849, (978) 579-9536 (fax).

The **Jessie B. Cox Charitable Trust** funds projects in New England in the areas of health, education and the environment and is particularly interested in projects that primarily benefit underserved populations and disadvantaged communities in New England, as well as projects that focus on prevention rather than remediation. The trust is also interested in fostering collaborations among nonprofit organizations. Grant awards range from \$25,000 - \$ 75,000 (average award = \$ 35,000). The **deadline** to submit concept papers for next trustees meeting is **October 15, 2003**. For more information, contact Susan M. Fish (scs@hembar.com), Grants Administrator, Select Client Services, Hemenway & Barnes, 60 State Street, Boston, MA 02109-1899, (617) 227-7940 ext.775) or go on-line to <http://www.hembar.com/selectsrv/jbcox/cox.html>.

The **National Fish and Wildlife Foundation** operates a conservation grants program that awards challenge grants, on a competitive basis, to eligible grant recipients, including federal, tribal, state, and local governments, educational institutions, and non-profit conservation organizations. Project proposals are received on a year-round, revolving basis with two decision cycles per year. Grants typically range from \$10,000-\$150,000, based upon need. Challenge grants are awarded to projects that: address priority actions promoting fish and wildlife conservation and the habitats on which they depend; work proactively to involve other conservation and community interests; leverage available funding; and evaluate project outcomes. Pre-proposal **submissions** for the next decision cycle are **due by October 15, 2003**. For more information, contact Lucy Wallace at (978) 443-0498 or go on-line to <http://www.nfwf.org/programs/guidelines.htm>.

The **Community Foundation of Western Massachusetts' Discretionary Grants** "are made in the areas of the arts, education, health, human services, housing and the environment. The Community Foundation also encourages creative and collaborative responses to existing or emerging problems or opportunities, and projects that leverage additional support for programs from other private and public funding sources." Grants of up to \$10, 000 is the general range. The next application **deadline** is **October 31, 2003** for projects in **Hampden and Franklin Counties**. For more information, go on-line to <http://www.communityfoundation.org>.

The Boston-based **Cricket Foundation** supports new initiatives in land preservation, research and advocacy, and biological conservation in New England. Past grants have been awarded for watershed protection and land conservation. The Foundation will support general operating, capital campaigns, seed money, special projects, equipment, exhibits, and performances. Grants range in size from \$1,000-\$5,000; call or write for grant guidelines (initial contact is usually made by Letter of Inquiry or telephone). Application **deadlines** for full proposals are May 1 and **November 1**. For more information, contact George Butterworth III, Exchange Place, Suite 2200, Boston, MA 02109-2881, (617) 570-1130.

The **North American Wetlands Conservation Small Grants** are for wetlands acquisition, creation,

enhancement, and or restoration, especially where waterfowl and other wetland birds will benefit. Grants of up to \$50,000 are available for "on the ground projects only"; a minimum 1:1 non-federal match is required. The next submission **deadline** is **November 28, 2003**. Electronic submissions are preferred. For more info go on-line to <http://northamerican.fws.gov/NAWCA/USsmallgrants.html>.

Partnerships established under NOAA's **Community-based Habitat Restoration National and Regional Partnership Grants Program** (http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/crp/partners_funding/natregpart.html) have since 2001 helped NOAA amplify financial resources and reach a larger, more diverse array of communities with strong vested interests in fishery habitat restoration. Partnerships have significantly leveraged available NOAA funds through cash match and local contributions, including land, volunteer support, and other in-kind services such as technical assistance, earthmoving activities and local knowledge. NOAA Restoration Center regional staff take an active role in partnership projects as needed, providing one-on-one technical and permitting assistance in restoring habitats required by marine and anadromous fish, endangered species, and other living marine resources. **Applications due: December 5, 2003** Applications for national and regional partnerships should cover a project period between 1 and 3 years. Average = \$200,000-\$600,000 range for federal FY04 (vs the entire period of the grant). Proposals can not be for less than \$100,000 or more than \$1,700,000. 1:1 non-federal match required.

The **Boston Foundation's Vision Fund** "is a source of flexible grants for organizations in the greater Boston area to support some of the costs associated with organizational capacity-building. Capacity-building efforts include projects that are designed to generate new thinking about ways to improve an organization's ability to serve the community, more effectively carry out its mission and plan for the future." Grant size ranges from \$250-\$2500. **No submission deadlines**; responses are made within 4-6 weeks. Go on-line to <http://www.tbf.org/fund/fund-L2.asp?id=203> for more information.

The **General Motors Corporation's Philanthropic Giving** program's "targeted areas of focus are: education, health, community relations, public policy, arts and culture, and environment and energy, with a strong commitment to diversity in all areas." Grants and event sponsorships are available. Applications for both are considered on a quarterly basis; however applications are accepted at any time. See <http://www.gm.com/company/gmability/philanthropy/guidelines/index.html> for more info.

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ON-LINE RESOURCES AND PUBLICATIONS

ON-LINE RESOURCES

Critter Crossings: Linking Habitats and Reducing Roadkill

<http://www.fhwa.dot.gov/environment/wildlifecrossings>

This is an on-line version of a document prepared by the Federal Highway Administration (FHWA) in April

of 2000 to help encourage highway planners, designers, builders and others to reduce the unnecessary carnage of wildlife on our nation's highways. The document was inspired by language in the Transportation Act for the 21st Century (TEA-21) that facilitated the use of federal transportation funds for wildlife overpasses, underpasses and other means to enable wildlife to safely cross roadways without being injured or killed by moving vehicles. Two recent and informative articles on this subject that can be read on-line are "Right of Way" (<http://magazine.audubon.org/cuttingedge/cuttingedge0306.html>), appearing in the June 2003 issue of *Audubon Magazine*, and "How Did the Grizzly Cross the Road?" (<http://www.sierraclub.org/sierra/200307/wildlifecrossing.asp>), appearing in the July/August issue of *Sierra Magazine*. Both articles contain links to other resources on this topic. [Note that the successor to TEA-21, called "TEA-3", or "SAFE-TEA" is now under debate in Congress; you may want to contact your legislator to indicate your interest in seeing that the use of transportation funds for fish- and wildlife-friendly projects is part of the reauthorized legislation (see <http://www.defenders.org/habitat/highways/new/tea21.html> for details).

The effort to reduce roadkill is part of a larger campaign to enhance habitat connectivity by modifying or removing unnecessary barriers (such as inadequately-sized or dropped roadway culverts) to fish and wildlife movement, particularly in and along rivers and streams which serve as key elements of our ecological infrastructure. **Riverways** is currently involved in a **River Continuity Project** in the greater Connecticut watershed to promote habitat connectivity along river and stream corridors by identifying obstacles to fish and/or wildlife movement and proposing solutions; contact Karen Peltó at (617) 626-1542 or Karen.Pelto@state.ma.us for more information. [See the lead article on the River Continuity Project in this edition of *Riverways NewsNotes*].

In the meantime, you might want to check out the **UMass Cooperative Extension's** web page (http://www.umass.edu/umext/nrec/pages/biodiver_resrc.html) for information on effective designs for facilitating safe fish and wildlife passage under roadways. See, e.g., "*Draft Technical Guidelines for River and Stream Crossings*". Also available on-line at this URL is a report entitled "*Buffer Zones and Beyond: Wildlife Use of Wetland Buffer Zones and their Protection under the Massachusetts Wetlands Protection Act*". This document provides conservation commissions, land trusts and individuals who own land containing freshwater wetlands a new tool to assess the importance of adjacent upland to specific species of wildlife that are dependent on wetlands (including rivers and streams). The report covers 65 species of reptiles, amphibians, mammals, and birds that are dependent on freshwater wetlands. Of the 65 species, 77% were found to require upland habitat up to 100 feet from the edge of the wetland, 58.5 % use the area 200 feet from the edge, and 52% use areas beyond 200 feet from the wetland edge. The report is designed to assist Conservation Commissions, land managers and developers identify which upland areas are critical for the survival of specific species of wetland dependent wildlife. It will be especially useful to Conservation Commissions in towns that have adopted wetland by-laws that offer more protection to wetland buffer zones and riverfront areas than is afforded by state wetland laws and regulations.

EnviroHealthAction

<http://www.envirohealthaction.org/water>

Powered by the **Physicians for Social Responsibility**, EnviroHealthAction is "a place where the health

community can learn and take action” on reducing health problems triggered by or related to pollution or other environmental factors. The “water” and other sections of this website provides links to good sources of information on this topic such as the **Center for Disease Control’s “Healthy Swimming 2003”** webpage (<http://www.cdc.gov/healthyswimming/index.htm>, which provides information on various “recreational water illnesses” or RWIs).

EOEA’s Community Preservation Initiative Web Page

<http://commpres.env.state.ma.us/index.asp>

Massachusetts has taken an innovative approach to growth management, creating a grassroots, municipally-driven smart growth initiative called Community Preservation. Community Preservation is an organizing principle focused on preserving and enhancing the quality of life in Massachusetts community by community, watershed by watershed. The Initiative provides tools, technical assistance and outreach to local decision-makers to help them make informed decisions about future growth. You will find a wealth of resources at this content-heavy page, including a “build-out” analysis for each Commonwealth municipality, information about the Community Preservation Act, and the *Community Preservation Press*, a bi-monthly e-letter about community preservation tools, techniques, efforts and events. Of particular interest to *Riverways NewsNotes* readers is a .pdf version of a recently-published document put out by the National Association of Local Government Environmental Professionals, the Trust for Public Land and ERG entitled *Smart Growth For Clean Water: Helping Communities Address the Water Quality Impacts of Sprawl* (<http://commpres.env.state.ma.us/publications/SmartGrowthCleanWater.pdf>).

Green Infrastructure

<http://www.greeninfrastructure.net>

Co-sponsored by the **Conservation Fund** and the **U.S. Forest Service**, this website provides eloquent testimony in support of safeguarding our “green infrastructure:...the Nation’s natural life-support system... an interconnected network of green space that conserves natural ecosystem values and functions while providing associated benefits to people. (Naturally flowing rivers and streams through naturally vegetated riparian areas are a great example of green infrastructure.) While sprawl and other forms of haphazard development are slowly but surely degrading the integrity of our green infrastructure, equally haphazard conservation responses in the form of disjointed, uncoordinated open space acquisitions, inconsistent local land use regulations and other actions largely fail to focus on the “big picture” of keeping the larger green infrastructure intact and fully functional. Green infrastructure differs from conventional open space planning by looking at conservation values and actions in concert with land development, growth management and planning for “grey infrastructure” such as roads, sewers and utilities. One of the many valuable on-line resources available at this site (and at <http://www.sprawlwatch.org/greeninfrastructure.pdf>) is *Green Infrastructure: Smart Conservation for the 21st Century*, an excellent short monograph describing the principles of green infrastructure and providing ten case study examples of green infrastructure in action. [FYI, a Green Infrastructure on-line audio training session co-sponsored by the American Planning Association and the Lincoln Institute of Land Policy will be taking place at 4PM on **Wednesday, December 3rd**; more details are posted at <http://www.planning.org/audioconference>.]

Library of Congress’ Panoramic Map Collection 1847-1929

<http://memory.loc.gov/ammem/pmhtml/panhome.html>

At this site you will be able to view a large number of historic and picturesque (albeit at varying degrees of accuracy and precision) panoramic maps contained in the Library of Congress's extensive collection. Massachusetts' historic mill and other river-centered communities are well-represented, including Adams (1882), Amesbury (1890 and 1914), Ashland (1878), Athol (1887) and Ayer (1886) (and that's just the "A"s). The site enables you to zoom into the maps to have tiny sections (like individual homes or trees) magnified in great detail. These historic views provide an excellent "snapshot" of what our communities looked like a century or more ago and enable an interesting "baseline" comparison to current conditions.

Local Government Environmental Assistance Network (LGEAN)

<http://www.lgean.org>

LGEAN is a "first-stop shop" providing environmental management, planning, funding, and regulatory information for local government elected and appointed officials, managers and staff. LGEAN enables local officials to interact with their peers and others on-line. In an effort to reach all local governments, LGEAN also manages a toll-free telephone service [(877) 865-4326]. LGEAN partnering organizations include the **American Water Works Association (AWWA)**, the **Environmental Council of the States (ECOS)**, the **Water Environment Federation (WEF)** and the **U.S.EPA**. Especially recommended is the "What's New?" section of the LGEAN website, which keeps local government officials abreast of current environmental funding opportunities, federal policy updates, important legislative activities, new reports and publications, and other available tools and resources. Last but not least, you can sign up to automatically receive important biweekly e-mail updates on new funding opportunities, federal policy updates, upcoming conferences/events and more by subscribing to the free LGEAN Update Service.

MassInsider

<http://www.massinsider.com>

The people that put out "Instatrac" (the bill-tracking service for proposed Mass. state legislation) have developed a new free web site that's "geared to meet the information needs of public opinion makers in Massachusetts." At this website you'll find: coverage-of-the-coverage of over 50 Massachusetts newspapers; opinion columns and op-ed pieces on politics and policy from Massachusetts and from around the nation; point-counterpoint debates on major Statehouse issues of the day; a State House gossip column, written by an anonymous insider; feature articles on legislators; major news stories from the other New England states, plus New York; and links to important policy and political sites on the Web.

Understanding the Clean Water Act

<http://www.cleanwateract.org>

Prepared by River Network (<http://www.rivernetwork.org>) as an on-line companion to its 1999 publication *The Clean Water Act: An Owner's Manual*, this is an excellent on-line training course designed to help citizens and river/watershed groups effectively use the federal Clean Water Act and other legal and other tools at the national, state and local level to protect and restore water quality and the biological integrity of rivers and other waterways. River Network is also conducting "Train the Trainers" programs on this topic;

check their website for details.

The Waterfront Center

<http://www.waterfrontcenter.org>

The Waterfront Center, a non-profit education and urban planning organization, was formed in 1981 in the belief that waterfronts -- where the land meets the ocean, bay, lake, river or canal -- are unique, finite resources. Like the cities they help define, urban waterfronts are dynamic places, undergoing profound change. Waterfronts often represent the best opportunity for community enhancement and enrichment. The Center's mission is to assist communities and the design and other professions in making the wisest and best long-term uses of waterfront resources for maximum public benefit. Here you can learn more about the Waterfront Center's **21st International Conference on Urban Waterfront Planning, Development and Culture**, scheduled for **September 11-13, 2003** in Montréal, Québec, Canada at the Hilton Montréal Bonaventure.

PUBLICATIONS

The **U.S. EPA's** "*Community, Culture and the Environment: A Guide to Understanding a Sense of Place*" (EPA 842-B-01-003) is available for ordering. This free guide explores the concepts of community and culture and provides tools for identifying, assessing, and working cooperatively within the social dynamics and local values connected to environmental protection. Learn more about this valuable resource and how to order it by calling (800) 490-9198 e-mailing ncepiwo@one.net or going on-line to <http://www.epa.gov/ecocommunity/tools/community.pdf>. (A mediocre-quality copy of this document has been posted on-line and can be accessed at <http://www.epa.gov/cgi-bin/claritgw?op-Display&document=clserv:OW:1614;&rank=4&template=epa>).

The privatization of public water systems around the world, driven by a handful of European corporations and the World Bank, is dramatically increasing despite sometimes tragic results. *The Water Barons: How a few powerful companies are privatizing your water* (<http://www.icij.org/water>), by the **International Consortium of Investigative Journalists**, a project of the **Center for Public Integrity**, shows that the three largest water utility companies have since 1990 expanded into nearly every region of the world, raising concerns that a handful of private companies could soon control a large chunk of the world's most vital resource. *Water Barons* may be purchased on-line for \$14 at this web page, but if this topic interests you, be sure to peruse the other portions of this content-rich site, including audible interview excerpts from some of the big players in this debate.

As you (may) know, *Water Barons* is only one of a growing number of publications on the water privatization topic. Other books/reports include *Blue Gold: The Fight to Stop the Corporate Theft of the World's Water* by Maude Barlow and Tony Clarke (The New Press, \$16.95, see <http://www.blueplanetproject.net/english/resources> and review at <http://www.sierraclub.org/sierra/200307/media1.asp#books>); *The New Economy of Water: The Risks and Benefits of Globalization and Privatization of Fresh Water* (available free on-line at http://www.pacinst.org/reports/new_economy.htm); *Dirty Water: The Environmental and Social Records of Four*

Multinational Water Companies (a 12-page report available for free on-line at http://www.foe.co.uk/resource/briefings/dirty_water.pdf) and *Water Wars: Privatization, Pollution, and Profit* by Vandana Shiva (see <http://www.southendpress.org/books/waterwars.shtml> and review of the book at <http://www.gristmagazine.com/books/books052302.asp?source=daily>). [On the natural resource privatization issue generally, you may want to read *Silent Assets: The Private Plunder of Our Common Wealth* by David Bollier (<http://www.silenttheft.com>)].

Although these books devote much if not most of their attention to the adverse impact of water privatization on the poor peoples of the world, privatization can cause adverse impacts to fish and wildlife as well. The January /February 2003 issue of *World●Watch Magazine* <http://www.worldwatch.org/pubs/mag/2003/161> contains an article by Don Hinrichsen on pp.12-18 entitled "A Human Thirst" which states "Humans now appropriate more than half of all the freshwater in the world. Rising demands from agriculture, industry and a growing population have left important habitats around the world high and dry." The impact of water withdrawals on wildlife has been a concern in Britain for some time; see, e.g., http://news.bbc.co.uk/1/hi/special_report/1998/water_week/69810.stm. The **National Wildlife Federation** (<http://www.nwf.org>) is a leader in the U.S. in raising public awareness of the importance of retaining water in the natural environment, where it is critically needed to support healthy aquatic and other hydric organisms, habitats and ecosystems.

The aerial acrobatics, flashing wings and bright colors of dragonflies and damselflies (also known as odonates) enrich the entire summer season. Inhabitants of almost every wetland throughout the Commonwealth, their beauty, behavior and wide range of habitats make them an excellent subject for nature study. The **Mass. Division of Fisheries and Wildlife** (DFW)'s **Natural Heritage and Endangered Species Program** (NH&ESP) recently unveiled its new publication entitled *A Field Guide to the Dragonflies and Damselflies of Massachusetts*. Authored by Blair Nikula, noted Cape Cod naturalist and wildlife photographer, Jennifer Loose, NHESP biologist and dragonfly specialist and Matt Burne, NHESP biologist and illustrator, the *Field Guide* is 200 pages, printed in color, and ring-bound. It includes color photographs of all male and most female adults of the 166 Massachusetts species, plus accounts of each species' diagnostic characteristics, range, flight period, habitat and behavior. Additional illustrations of key characteristics for identifying species, as well as information on the families, life history and conservation of these fascinating creatures are also included. This is the first field guide to cover all of the odonate species found in Massachusetts, and as species' ranges extend well beyond our state's borders, the *Field Guide* will be a useful tool for anyone interested in dragonflies throughout New England and beyond. To order *A Field Guide to the Dragonflies and Damselflies of Massachusetts*, please contact the NHESP at (508) 792-7270 ext. 200. The price is \$20/book (\$15/book for orders of 20 or more); shipping and handling are included. To order by mail, please send check or money order made out to the Natural Heritage and Endangered Species Fund to: Dragonfly Field Guide, Mass. Division of Fisheries and Wildlife, 1 Rabbit Hill Road, Westboro, MA 01581.

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